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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,020	08/26/2003	Teng-Kuci Yang	12725 B	6474

7590 10/22/2004

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EXAMINER

SHIAO, REI TSANG

ART UNIT	PAPER NUMBER
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1626

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/650,020

**Applicant(s)**

YANG ET AL.

**Examiner**

Robert Shiao

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on application filed on 08/26, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. Claims 1-8 are pending in the application.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. It is noted that the claims contains subject matter "R<sup>3</sup>, R<sup>4</sup> and N form a cycle or a heterocycle", which were not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention, i.e., see claim 1, line 7.

3. Claims 1-8 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for R<sup>3</sup>, R<sup>4</sup> and N form a pyrrolidine moiety, does not reasonably provide enablement for R<sup>3</sup>, R<sup>4</sup> and N form a morpholine or piperidine moiety, etc. The specification does not enable any person skilled in the art to which it pertains,

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or with which it is most nearly connected, to use the invention commensurate in scope with these claims, see page 5, lines 5-10.

For rejections under 35 U.S.C. 112, first paragraph, the following factors must be considered (In re Wands, 8 USPQ2d 1400, 1988):

- 1) Nature of invention.
- 2) State of prior art.
- 3) Level of ordinary skill in the art.
- 4) Level of predictability in the art.
- 5) Amount of direction and guidance provided by the inventor.
- 6) Existence of working examples.
- 7) Breadth of claims.
- 8) Quantity of experimentation needed to make or use the invention based on the content of the disclosure.

See below:

1) Nature of the invention.

The claim is drawn to a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N, see claim 1, line 7, and claim 2, line 2.

2) State of the prior art.

The reference Kang et al. publication, Bulletin of the Korean Chemical Society (1996), 17(12), 1135-1142, see CAS: 126:131036, does not indicate which compounds of instant compounds may be useful in the claimed invention. Kang et al. is pertaining

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to chiral beta-amino thiol catalysts for the enantioselective addition of diethylzinc to aldehydes.

3) Level of ordinary skill in the art.

The level of ordinary skill in the art is high. The claims are drawn to “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N”. Applicant’s specification does not enable the public to prepare such “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N” by the instant examples disclosed in the specification.

4) Level of predictability in the art.

The claims are drawn to “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N”, see claim 1, line 7, and claim 2, line 2. Different types of the genus of processes require various experimental procedures and without guidance that is applicable to all possible “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N”, there would be little predictability in the scope of claimed compounds.

5) Amount of direction and guidance provided by the inventor.

The claims are drawn to “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N”, encompasses a vast number of compounds. Applicant’s limited guidance does not enable the public to prepare such “a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N” in the specification. There is no enablement for “a compound of formula (II) without limitation of a cycle or a heterocycle formed by

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variables  $R^3$  and  $R^4$ , and N", i.e., a morpholine or piperidine moiety, which are neither enabled nor supported in the specification.

6) Existence of working examples.

The claims are drawn to "a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N", encompasses a vast number of compounds. Applicant's limited working examples do not enable the public to prepare such a numerous amount of "a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N" in the specification. Applicants claim "a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N", however, the specification provides only limited examples of the compounds.

7) Breadth of claims.

The claims are extremely broad due to the vast number of possible "a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N".

8) Quantity of experimentation needed to make or use the invention based on the content of the disclosure.

The specification did not enable any person skilled in the art to which it pertains to make or use the invention commensurate in scope with this claim. In particular, the specification failed to enable the skilled artisan to practice the invention without undue experimentation. The skilled artisan would have a

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numerous processes in order to obtain "a compound of formula (II) without limitation of a cycle or a heterocycle formed by variables  $R^3$  and  $R^4$ , and N" as claimed. Based on the unpredictable nature of the invention and state of the prior art and the extreme breadth of the claims, one skilled in the art could not perform the claimed compounds without undue experimentation, see *In re Armbruster* 185 USPQ 152 CCPA 1975. Incorporation of the limitation of " $R^3$ ,  $R^4$ , and N" form a cycle or a heterocycle" of the formula (II), i.e., pyrrolidine, would obviate the rejection, see page 5, lines 5-10.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 or 4, line 2, recites the limitation " $R^3$ ,  $R^4$ , O, and N form a ring by means of morpholine", is ambiguous and indefinite. There is insufficient antecedent basis for this limitation in the claim. It is noted that only  $R^3$ ,  $R^4$ , and N form a cycle or heterocycle in the base claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 rejected under 35 U.S.C. 102(b) as being anticipated by (1)

Nishimura et al. publication, Yakugaku Zasshi (1964), 84(9), 811-17, see CAS: 62:8904;

(2) Kossenjans et al. publication, Journal of the Chemical Society, Perkin Transactions

1: Organic and Bio-Organic Chemistry (1999), (16), 2353-2365, see CAS:131:350834;

(3) Wipf et al. publication, Journal of Organic Chemistry (1998), 63(19), 6454-6455, see

CAS: 129:289723; (4) Kang et al. publication, Bulletin of the Korean Chemical Society

(1996), 17(12), 1135-1142, see CAS: 126:131036; (5) Jin et al publication, Tetrahedron

Letters (1996), 37(48), 8767-8770, see CAS: 126:103872; (6) Kang et al. publication,

Journal of the Chemical Society, Chemical Communications (1994), (17), 2009-10, see

CAS: 123:142957; or (7) Poelert et al. publication, Recueil des Travaux Chimiques des

Pays-Bas (1994), 113(7-8), 365-8, see CAS: 121:280925.

Applicants claim a compound of formula (II), and this compound is found in the pages 1-8 of the specification.

Nishimura et al. disclose a compound Acetic acid, thio-, S-[alpha-[1-(dimethylamino)ethyl]benzyl] ester, clearly anticipate the instant compound of formula (II), wherein the variable  $R^6$  represents alkyl (i.e., methyl), the variable  $R^2$  represents aryl (i.e., phenyl), variables  $R^1$ ,  $R^3$ , and  $R^4$  independently represent alkyl (i.e., methyl), see RN: 1210-30-6 of CAS: 62:8904.

Kossenjans et al. disclose a compound Ethanethioic acid, S-[(1R,2S)-2-[(3aS,6aS)-hexahydrocyclopenta[b]pyrrol-1(2H)-yl]-1-phenylpropyl] ester, clearly anticipate the instant compound of formula (II), wherein the variable  $R^6$  represents alkyl



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(i.e., methyl), the variable  $R^2$  represents aryl (i.e., phenyl), variables  $R^1$  represent alkyl (i.e., methyl), variable  $R^3$ ,  $R^4$ , and N form a cycle (i.e., hexahydrocyclopenta[b]pyrrol ), see RN: 1250371-17-6 of CAS: 131:350834.

Wipf et al. disclose a compound Ethanethioic acid, S-[(1S,2R)-2-(dibutylamino)-1-phenylpropyl] ester, clearly anticipate the instant compound of formula (II), wherein the variable  $R^6$  represents alkyl (i.e., methyl), the variable  $R^2$  represents aryl (i.e., phenyl), variables  $R^1$ ,  $R^3$ , and  $R^4$  independently represent alkyl (i.e., methyl or butyl), see RN: 185606-94-4 of CAS: 129:289723.

Kang et al. disclose four compounds Ethanethioic acid, S-[(1R,2S)-1,2-diphenyl-2-(1-piperidinyl)ethyl] ester; Ethanethioic acid, S-[1-phenyl-2-(1-pyrrolidinyl)propyl] ester; Ethanethioic acid, S-[2-(hexahydro-1H-azepin-1-yl)-1-phenylpropyl] ester; and Ethanethioic acid, S-[2-(3-azabicyclo[3.2.1]oct-3-yl)-1-phenylpropyl] ester, clearly anticipate the instant compound of formula (II), wherein the variable  $R^6$  represents alkyl (i.e., methyl), the variable  $R^2$  represents aryl (i.e., phenyl), variables  $R^1$  represent alkyl (i.e., methyl) or aryl (i.e., phenyl), variable  $R^3$ ,  $R^4$ , and N form a cycle (i.e., piperidine, pyrrolidine, azepane, or 3-azabicyclo[3.2.1]oct-3-yl ), see RN: 160011-79-0, 166031-45-4196314-11-4, and 186314-19-2 of CAS: 126:131036.

Jin et al. disclose a compound Ethanethioic acid, S-[1-phenyl-2-(1-piperidinyl)propyl] ester, [S-( $R^*$ , $S^*$ )]-, clearly anticipate the instant compound of formula (II), wherein the variable  $R^6$  represents alkyl (i.e., methyl), the variable  $R^2$  represents aryl (i.e., phenyl), variables  $R^1$  represent alkyl (i.e., methyl), variable  $R^3$ ,  $R^4$ , and N form a cycle (i.e., piperidine), see RN: 185606-97-7 of CAS: 126:103872.

Kang et al. disclose a compound Ethanethioic acid, S-[1-phenyl-2-(1-piperidinyl) propyl] ester, [R-(R\*,S\*)]-, clearly anticipate the instant compound of formula (II), wherein the variable R<sup>6</sup> represents alkyl (i.e., methyl), the variable R<sup>2</sup> represents aryl (i.e., phenyl), variables R<sup>1</sup> represent alkyl (i.e., methyl), variable R<sup>3</sup>, R<sup>4</sup>, and N form a cycle (i.e., piperidine), see RN: 166031-44-3 of CAS: 123:142957.

Poelert et al. disclose two compounds Ethanethioic acid, S-[2-(dimethylamino)-1-phenylpropyl] ester, [S-(R\*,R\*)]-; and Ethanethioic acid, S-[2-(dimethylamino)-1-phenylpropyl] ester, [R-(R\*,S\*)]-, clearly anticipate the instant compound of formula (II), wherein the variable R<sup>6</sup> represents alkyl (i.e., methyl), the variable R<sup>2</sup> represents aryl (i.e., phenyl), variables R<sup>1</sup>, R<sup>3</sup>, and R<sup>4</sup> independently represent alkyl (i.e., methyl), see RN: 2226-22-4 and 2226-23-5 of CAS: 121:280925.

### ***Objection***

6. Claim 8 is objected to as containing a typographic error. Replacement of the term "organic metal" with the term "metal" would obviate the objection.

### ***Telephone Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Shiao whose telephone number is (571) 272-0707. The examiner can normally be reached on 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph K. McKane can be reached on (571) 272-0699. The fax phone

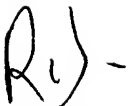
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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 1626

10/20/04.

October 20, 2004